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# ELECTRONIC HEALTH RECORDS

VA and DOD Need to  
Support Cost and  
Schedule Claims,  
Develop  
Interoperability Plans,  
and Improve  
Collaboration

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## ELECTRONIC HEALTH RECORDS

### VA and DOD Need to Support Cost and Schedule Claims, Develop Interoperability Plans, and Improve Collaboration

#### Why GAO Did This Study

VA and DOD operate two of the nation's largest health care systems, serving approximately 16 million veterans and active duty service members, and their beneficiaries, at total annual costs of over \$100 billion. The departments have recognized the importance of developing capabilities for sharing electronic patient health information and have worked since 1998 to develop such capabilities. In February 2011, VA and DOD initiated a program to develop a single, common electronic health record system—iEHR—to replace their existing health record systems. This program was to be managed by the IPO and implemented by 2017. However, the departments made significant changes to the program in 2013. GAO was asked to review the iEHR program. This report (1) describes changes to the program and evaluates the departments' current plans and (2) determines whether the departments are effectively collaborating on management of the program. GAO reviewed relevant program documents and interviewed agency officials.

#### What GAO Recommends

GAO recommends that VA and DOD develop and compare the estimated cost and schedule of their current and previous approaches to creating an interoperable electronic health record and, if applicable, provide a rationale for pursuing a more costly or time-consuming approach. GAO also recommends that the departments develop plans for interoperability and ensure the IPO has control over needed resources and clearer lines of authority. VA and DOD concurred with GAO's recommendations.

View [GAO-14-302](#). For more information, contact Valerie C. Melvin at (202) 512-6304 or [melvinv@gao.gov](mailto:melvinv@gao.gov).

#### What GAO Found

The Departments of Veterans Affairs (VA) and Defense (DOD) abandoned their plans to develop an integrated electronic health record (iEHR) system and are instead pursuing separate efforts to modernize or replace their existing systems in an attempt to create an interoperable electronic health record. Specifically, in February 2013, the secretaries cited challenges in the cost and schedule for developing the single, integrated system and announced that each department would focus instead on either building or acquiring similar core sets of electronic health record capabilities, then ensuring interoperability between them. However, VA and DOD have not substantiated their claims that the current approach will be less expensive and more timely than the single-system approach. Major investment decisions—including terminating or significantly restructuring an ongoing program—should be justified using analyses that compare the costs and schedules of alternative proposals. Yet, the departments have not developed revised cost and schedule estimates for their new modernization efforts and any additional efforts needed to achieve interoperability between the new systems, and compared them with the relevant estimates for their former approach. In the absence of such a comparison, VA and DOD lack assurance that they are pursuing the most cost-effective and timely course of action for delivering the fully interoperable electronic health record the departments have long pursued to provide the best possible care for service members and veterans.

The departments have initiated their separate system efforts. VA intends to deploy clinical capabilities of its new system at two locations by September 2014, and DOD has set a goal of beginning deployment of its new system by the end of fiscal year 2016. However, the departments have yet to update their joint strategic plan to reflect the new approach or to disclose what the interoperable electronic health record will consist of, as well as how, when, and at what cost it will be achieved. Without plans that include the scope, lines of responsibility, resource requirements, and an estimated schedule for achieving an interoperable health record, VA, DOD, and their stakeholders may not have a shared understanding of how the departments intend to address their common health care business needs.

VA and DOD have not addressed management barriers to effective collaboration on their joint health information technology (IT) efforts. As GAO previously reported, the departments faced barriers to effective collaboration in the areas of enterprise architecture and IT investment management, among others. However, they have yet to address these barriers by, for example, developing a joint health care architecture or a joint IT investment management process to guide their collaboration. Further, the Interagency Program Office (IPO), established by law to act as a single point of accountability for the departments' development of interoperable health records, was to better position the departments to collaborate; but the departments have not implemented the IPO in a manner consistent with effective collaboration. For example, the IPO lacks effective control over essential resources such as funding and staffing. In addition, recent decisions by the departments have diffused responsibility for achieving integrated health records, potentially undermining the IPO's intended role as the point of accountability. Providing the IPO with control over essential resources and clearer lines of authority would better position it for effective collaboration.

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## Abbreviations

AHLTA	Armed Forces Health Longitudinal Technology Application
AT&L	Acquisition, Technology, and Logistics
BHIE	Bidirectional Health Information Exchange
CHCS	Composite Health Care System
CHDR	Clinical Data Repository/Health Data Repository initiative
CIO	chief information officer
DHMS	DOD Healthcare Management Systems
DHMSM	DOD Healthcare Management System Modernization
DOD	Department of Defense
FHCC	Federal Health Care Center
FHIE	Federal Health Information Exchange
GCPR	Government Computer-Based Patient Record
iEHR	Integrated Electronic Health Record
IPO	Interagency Program Office
IT	information technology
NDAA	National Defense Authorization Act
RFP	request for proposals
VA	Department of Veterans Affairs
VistA	Veterans Health Information Systems and Technology Architecture
VLER	Virtual Lifetime Electronic Record

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February 27, 2014

The Honorable Patty Murray  
Chairman  
Committee on the Budget  
United States Senate

The Honorable Bernard Sanders  
Chairman  
The Honorable Richard Burr  
Ranking Member  
Committee on Veterans' Affairs  
United States Senate

The Department of Veterans Affairs (VA) and the Department of Defense (DOD) operate two of the nation's largest health care systems, providing health care to approximately 6.3 million veterans and 9.6 million active duty service members and their beneficiaries at estimated annual costs of about \$53 billion and \$49 billion, respectively. Electronic health records are an essential part of delivering quality care to veterans and service members—especially the 5 million shared patients—that is, those who receive health care and services from both departments.<sup>1</sup>

Both VA and DOD have long recognized the importance of advancing the use of shared health information systems and capabilities to make patient information more readily available to their health care providers, reduce medical errors, and streamline administrative functions. Toward this end, in February 2011, the departments initiated a program to jointly develop a single electronic health record system, known as the integrated Electronic Health Record (iEHR), which was to replace the two departments' existing electronic health record systems. The DOD/VA Interagency Program Office (IPO) was given responsibility for managing the iEHR program. More recently, however, the departments have made significant changes to the direction of the program.

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<sup>1</sup>An electronic health record is a collection of information about the health of an individual or the care provided, such as patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports.

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At your request, we conducted a review of the iEHR program. Specifically, our objectives were to (1) describe the changes VA and DOD have made to the iEHR program since its inception and evaluate the departments' current plans for the program and (2) determine whether the departments, including the IPO, are effectively collaborating on management of the iEHR program.

To accomplish the objectives, we reviewed relevant program documentation and interviewed appropriate VA, DOD, and IPO officials. Specifically, to describe changes to the iEHR program and evaluate the departments' current plans, we reviewed and compared iEHR program planning documentation (e.g., business case, program management plan, and integrated program-level requirements document) with program status briefings, acquisition decision memoranda, and minutes of meetings between the Secretaries of Defense and Veterans Affairs. To determine whether the departments are effectively collaborating on management of the iEHR program, we evaluated VA's and DOD's actions in response to recommendations we previously made to address barriers the departments face in their efforts to meet electronic health record needs. We also compared the departments' implementation of the IPO with effective collaborative practices we have previously identified.<sup>2</sup> Lastly, we analyzed the governance structure for the program, including organizational charts and charters that established the reporting structure between the IPO, VA, DOD, and interagency organizations.

We conducted this performance audit from September 2012 to February 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A more complete discussion of our objectives, scope, and methodology is provided in appendix I.

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<sup>2</sup>GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005) and *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, [GAO-12-1022](#) (Washington, D.C.: Sept. 27, 2012).

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## Background

The use of information technology (IT) to electronically collect, store, retrieve, and transfer clinical, administrative, and financial health information has great potential to help improve the quality and efficiency of health care. Historically, patient health information has been scattered across paper records kept by many different caregivers in many different locations, making it difficult for a clinician to access all of a patient's health information at the time of care. Lacking access to these critical data, a clinician may be challenged to make the most informed decisions on treatment options, potentially putting the patient's health at greater risk. The use of electronic health records can help provide this access and improve clinical decisions.

Electronic health records are particularly crucial for optimizing the health care provided to military personnel and veterans. While in military status and later as veterans, many VA and DOD patients tend to be highly mobile and may have health records residing at multiple medical facilities within and outside the United States. Making such records electronic can help ensure that complete health care information is available for most military service members and veterans at the time and place of care, no matter where it originates.

Although they have identified many common health care business needs, both departments have spent large sums of money to develop and operate separate electronic health record systems that they rely on to create and manage patient health information. VA uses its integrated medical information system—the Veterans Health Information Systems and Technology Architecture (Vista)—which was developed in-house by VA clinicians and IT personnel. The system consists of 104 separate computer applications, including 56 health provider applications; 19 management and financial applications; 8 registration, enrollment, and eligibility applications; 5 health data applications; and 3 information and education applications. Besides being numerous, these applications have been customized at all 128 VA sites.<sup>3</sup> According to the department, this customization increases the cost of maintaining the system, as it requires that maintenance also be customized.

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<sup>3</sup>A site includes one or more facilities—medical centers, hospitals, or outpatient clinics—that store their electronic health data in a single database.



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In 2001, the Veterans Health Administration undertook an initiative to modernize VistA by standardizing patient data and modernizing the health information software applications. In doing so, its goal was to move from the hospital-centric environment that had long characterized the department's health care operations to a veteran-centric environment built on an open, robust systems architecture that would more efficiently provide both the same functions and benefits of the existing system and enhanced functions based on computable data. VA planned to take an incremental approach to the initiative, based on six phases that were to be completed in 2018. The department reported spending almost \$600 million from 2001 to 2007 on eight projects, including an effort that resulted in a repository containing selected standardized health data, as part of the effort to modernize VistA. In April 2008, the department estimated an \$11 billion total cost to complete, by 2018, the modernization that was planned at that time. However, according to VA officials, the modernization effort was terminated in August 2010.

For its part, DOD relies on its Armed Forces Health Longitudinal Technology Application (AHLTA), which comprises multiple legacy medical information systems that the department developed from commercial software products that were customized for specific uses. For example, the Composite Health Care System (CHCS), which was formerly DOD's primary health information system, is still in use to capture information related to pharmacy, radiology, and laboratory order management. In addition, the department uses Essentris (also called the Clinical Information System), a commercial health information system customized to support inpatient treatment at military medical facilities. DOD obligated approximately \$2 billion for AHLTA between 1997 and 2010. The department initiated efforts to improve system performance and enhance functionality and planned to continue its efforts to stabilize the AHLTA system through 2015 as a "bridge" to the new electronic health record system it intended to acquire. According to DOD, the planned new electronic health record system—known as the EHR Way Ahead—was to be the department's comprehensive, real-time health record for service members and their families and beneficiaries. In January 2010, the department initiated an analysis of alternatives for meeting system capability requirements it had identified.

A key goal for sharing health information among providers, such as between VA's and DOD's health care systems, is achieving interoperability. Interoperability enables different information systems or components to exchange information and to use the information that has been exchanged. Interoperability can be achieved at different levels. At

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the highest level, electronic data are computable (that is, in a format that a computer can understand and act to, for example, provide alerts to clinicians on drug allergies). At a lower level, electronic data are structured and viewable, but not computable. The value of data at this level is that they are structured so that data of interest to users are easier to find. At a still lower level, electronic data are unstructured and viewable, but not computable. With unstructured electronic data, a user would have to find needed or relevant information by searching uncategorized data. Beyond these, paper records can also be considered interoperable (at the lowest level) because they allow data to be shared, read, and interpreted by human beings. However, they do not provide decision support capabilities, such as automatic alerts about a particular patient's health, or other reported advantages of automation. We have previously reported that all data may not require the same level of interoperability, nor is interoperability at the highest level achievable in all cases. For example, unstructured, viewable data may be sufficient for such narrative information as clinical notes.<sup>4</sup>

Interoperability allows patients' electronic health information to move with them from provider to provider, regardless of where the information originated. If electronic health records conform to interoperability standards, they can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization, thus providing patients and their caregivers the necessary information required for optimal care. Interoperability depends on the use of agreed-upon standards to ensure that information can be shared and used. In the health IT field, standards may govern areas ranging from technical issues, such as file types and interchange systems, to content issues, such as medical terminology.<sup>5</sup>

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<sup>4</sup>GAO, *Electronic Health Records: DOD and VA Interoperability Efforts Are Ongoing; Program Office Needs to Implement Recommended Improvements*, [GAO-10-332](#) (Washington, D.C.: Jan. 28, 2010).

<sup>5</sup>Developing, coordinating, and agreeing on standards are only parts of the processes involved in achieving interoperability for electronic health records systems or capabilities. In addition, specifications are needed for implementing the standards, as well as criteria and a process for verifying compliance with the standards. An interoperability specification codifies detailed implementation guidance that includes references to the identified standards or parts of standards and explains how they should be applied to specific health care topic areas.

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## History of VA and DOD Efforts and Challenges to Achieve Interoperable Electronic Health Records

Since 1998, VA and DOD have relied on a patchwork of initiatives involving their health information systems to achieve electronic health record interoperability. These have included efforts to share viewable data in existing (legacy) systems; link and share computable data between the departments' modernized health data repositories; establish and address interoperability objectives to meet specific data-sharing needs; develop a virtual lifetime electronic health record to track patients through active service and veteran status; and implement IT capabilities for the first joint federal health care center. While these initiatives have collectively yielded increased data sharing in various capacities, a number of them have nonetheless been plagued by persistent management challenges, which have created barriers to achieving the fully interoperable electronic health record capabilities long sought.

### Sharing Data in Legacy Systems

Among the departments' earliest efforts to achieve interoperability was the Government Computer-Based Patient Record (GCPR) initiative, which was begun in 1998 with the intent of providing an electronic interface that would allow physicians and other authorized users of VA's and DOD's health facilities to access data from the other agency's health facilities.<sup>6</sup> The interface was expected to compile requested patient health information in a temporary, "virtual" record that could be displayed on a user's computer screen. However, in reporting on this initiative in April 2001, we found that accountability for GCPR was blurred across several management entities and that basic principles of sound IT project planning, development, and oversight had not been followed, creating barriers to progress.<sup>7</sup> For example, clear goals and objectives had not been set; detailed plans for the design, implementation, and testing of the interface had not been developed; and critical decisions were not binding on all partners. While both departments concurred with our recommendations that they, among other things, create comprehensive and coordinated plans for the effort, progress on the initiative continued to be disappointing. The departments subsequently revised the strategy for GCPR and, in May 2002, narrowed the scope of the initiative to focus on

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<sup>6</sup>Initially, the Indian Health Service was also part of this initiative, having been included because of its population-based research expertise and its long-standing relationship with VA. However, the Indian Health Service was not included in a later revised strategy for electronically sharing patient health information.

<sup>7</sup>GAO, *Computer-Based Patient Records: Better Planning and Oversight By VA, DOD, and IHS Would Enhance Health Data Sharing*, [GAO-01-459](#) (Washington, D.C.: Apr. 30, 2001).

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## Linking Modernized Data Repositories

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enabling DOD to electronically transfer service members' health information to VA upon their separation from active duty. The initiative—renamed the Federal Health Information Exchange (FHIE)—was completed in 2004.

Building on FHIE, VA and DOD also established the Bidirectional Health Information Exchange (BHIE) in 2004, which was aimed at allowing clinicians at both departments viewable access to records on shared patients (that is, those who receive care from both departments, such as veterans who receive outpatient care from VA clinicians and then are hospitalized at a military treatment facility). The interface also enabled DOD sites to see previously inaccessible data at other DOD sites.

Further, in March 2004, the departments began an effort to develop an interface linking VA's Health Data Repository and DOD's Clinical Data Repository, as part of a long-term initiative to achieve the two-way exchange of health information between the departments' modernized systems—known as the Clinical Data Repository/Health Data Repository initiative, or CHDR. The departments had planned to be able to exchange selected health information through CHDR by October 2005. However, in June 2004, we reported that the efforts of VA and DOD in this area demonstrated a number of management weaknesses.<sup>8</sup> Among these were the lack of a well-defined architecture for describing the interface for a common health information exchange, an established project management lead entity and structure to guide the investment in the interface and its implementation, and a project management plan defining the technical and managerial processes necessary to satisfy project requirements. Accordingly, we recommended that the departments address these weaknesses, and they agreed to do so.

In September 2005, we testified that the departments had improved the management of the CHDR program, but that this program continued to face significant challenges—in particular, with developing a project management plan of sufficient specificity to be an effective guide for the

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<sup>8</sup>GAO, *Computer-Based Patient Records: VA and DOD Efforts to Exchange Health Data Could Benefit from Improved Planning and Project Management*, [GAO-04-687](#) (Washington, D.C.: June 7, 2004).

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## Establishing and Addressing Interoperability Objectives

program.<sup>9</sup> In a June 2006 testimony we noted that the project did not meet a previously established milestone: to be able to exchange outpatient pharmacy data, laboratory results, allergy information, and patient demographic information on a limited basis by October 2005.<sup>10</sup> By September 2006, the departments had taken actions which ensured that the CHDR interface linked the departments' separate repositories of standardized data to enable a two-way exchange of computable outpatient pharmacy and medication allergy information. Nonetheless, we noted that the success of CHDR would depend on the departments instituting a highly disciplined approach to the project's management.

To accelerate the exchange of electronic health information between the two departments, the National Defense Authorization Act (NDAA) for Fiscal Year 2008 included provisions directing VA and DOD to jointly develop and implement, by September 30, 2009, fully interoperable electronic health record systems or capabilities.<sup>11</sup> To facilitate compliance with the act, the departments' Interagency Clinical Informatics Board, made up of senior clinical leaders who represent the user community, began establishing priorities for interoperable health data between VA and DOD. In this regard, the board was responsible for determining priorities for electronic data sharing between the departments, as well as what data should be viewable and what data should be computable. Based on its work, the board established six interoperability objectives for meeting the departments' data-sharing needs:

- Refine social history data: DOD was to begin sharing with VA the social history data that are captured in the DOD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.
- Share physical exam data: DOD was to provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.

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<sup>9</sup>GAO, *Computer-Based Patient Records: VA and DOD Made Progress, but Much Work Remains to Fully Share Medical Information*, [GAO-05-1051T](#) (Washington, D.C.: Sept. 28, 2005).

<sup>10</sup>GAO, *Information Technology: VA and DOD Face Challenges in Completing Key Efforts*, [GAO-06-905T](#) (Washington, D.C.: June 22, 2006).

<sup>11</sup>Pub. L. No. 110-181, § 1635, 122 Stat. 3, 460-463 (2008).

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- Demonstrate initial network gateway operation: VA and DOD were to demonstrate the operation of secure network gateways to support joint VA-DOD health information sharing.
  - Expand questionnaires and self-assessment tools: DOD was to provide all periodic health assessment data stored in its electronic health record to VA such that questionnaire responses would be viewable with the questions that elicited them.
  - Expand Essentris in DOD: DOD was to expand its inpatient medical records system (CliniComp's Essentris product suite) to at least one additional site in each military medical department (one Army, one Air Force, and one Navy, for a total of three sites).
  - Demonstrate initial document scanning: DOD was to demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA.

The departments asserted that they took actions that met the six objectives and, in conjunction with capabilities previously achieved (e.g., FHIE, BHIE, and CHDR), had met the September 30, 2009, deadline for achieving full interoperability as required by the act. Nonetheless, the departments planned additional work to further increase their interoperable capabilities, stating that these actions reflected the departments' recognition that clinicians' needs for interoperable electronic health records are not static. In this regard, the departments focused on additional efforts to meet clinicians' evolving needs for interoperable capabilities in the areas of social history and physical exam data, expanding implementation of Essentris, and additional testing of document scanning capabilities.

Even with these actions, however, we identified a number of challenges the departments faced in managing their efforts in response to the 2008 NDAA. Specifically, we identified challenges with respect to performance measurement, project scheduling, and planning. For example, in a January 2009 report, we noted that the departments' key plans did not identify results-oriented (i.e., objective, quantifiable, and measurable) performance goals and measures that are characteristic of effective planning and can be used as a basis to track and assess progress toward the delivery of new interoperable capabilities.<sup>12</sup> We pointed out that

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<sup>12</sup>GAO, *Electronic Health Records: DOD's and VA's Sharing of Information Could Benefit from Improved Management*, [GAO-09-268](#) (Washington, D.C.: Jan. 28, 2009).

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without establishing results-oriented goals and reporting progress using measures relative to the established goals, the departments and their stakeholders would not have the comprehensive picture that they needed to effectively manage their progress toward achieving increased interoperability. Accordingly, we recommended that DOD and VA take action to develop such goals and performance measures to be used as a basis for providing meaningful information on the status of the departments' interoperability initiatives. In response, the departments stated that such goals and measures would be included in the next version of the VA/DOD Joint Executive Council Joint Strategic Plan. However, that plan was not approved until April 2010—7 months after the departments asserted they had met the deadline for achieving full interoperability.

In addition to its provisions directing VA and DOD to jointly develop fully interoperable electronic health record systems or capabilities, the 2008 NDAA called for the departments to set up an interagency program office (IPO) to be a single point of accountability for their efforts to implement these systems or capabilities by the September 30, 2009, deadline. Accordingly, in January 2009, the office completed its charter, articulating, among other things, its mission and functions with respect to attaining interoperable electronic health data. The charter further identified the office's responsibilities for carrying out its mission in areas such as oversight and management, stakeholder communication, and decision making. Among the specific responsibilities identified in the charter was the development of a plan, schedule, and performance measures to guide the departments' electronic health record interoperability efforts.

In July 2009, we reported that the IPO had not fulfilled key management responsibilities identified in its charter, such as the development of an integrated master schedule and a project plan for the department's efforts to achieve full interoperability.<sup>13</sup> Without these important tools, the office was limited in its ability to effectively manage and meaningfully report progress on the delivery of interoperable capabilities. We recommended that the IPO establish a project plan and a complete and detailed integrated master schedule. In response to our recommendation, the

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<sup>13</sup>GAO, *Electronic Health Records: DOD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement*, [GAO-09-775](#) (Washington, D.C.: July 28, 2009).

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## Developing a Virtual Lifetime Electronic Record

office began to develop an integrated master schedule and project plan that included information about its ongoing interoperability activities.

In another attempt at furthering efforts to increase electronic health record interoperability, in April 2009, the President announced that VA and DOD would work together to define and build the Virtual Lifetime Electronic Record (VLER) to streamline the transition of electronic medical, benefits, and administrative information between the two departments. VLER was intended to enable access to electronic records for service members as they transition from military to veteran status, and throughout their lives. Further, the initiative was to expand the departments' health information-sharing capabilities by enabling access to private-sector health data.

Shortly after the April 2009 announcement, VA, DOD, and the IPO began working to define and plan for the initiative's health data-sharing activities, which they refer to as VLER Health.<sup>14</sup> In June 2009, the departments adopted a phased implementation strategy consisting of a series of 6-month pilot projects to deploy a set of health data exchange capabilities between existing electronic health record systems at sites around the country. Each pilot project was intended to build upon the technical capabilities of its predecessor, resulting in a set of baseline capabilities to inform project planning and guide the implementation of VLER nationwide. In June 2010, the departments announced their goal to deploy VLER Health nationwide by the end of 2012.<sup>15</sup>

The first pilot, which started in August 2009, in San Diego, California, resulted in VA, DOD, and Kaiser Permanente being able to share a limited set of test patient data. Subsequently, between March 2010 and January 2011, VA and DOD conducted another pilot in the Tidewater area of southeastern Virginia, which focused on sharing the same data as

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<sup>14</sup>To date, the departments have only focused on the exchange of health information. According to department officials, they intend to pursue initiatives for incorporating benefits and administrative data at a later time.

<sup>15</sup>DOD, *Report to the Congressional Defense Committees: Improvements to the Governance and Execution of Health Information Management and Information Technology Programs* (Washington, D.C.: June 21, 2010).



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the San Diego pilot plus additional laboratory data. Further, during 2011, the departments implemented two additional pilots in Washington state.<sup>16</sup>

In a February 2011 report on the departments' efforts to address their common health IT needs, we noted that VA and DOD had identified a high-level approach for implementing VLER and had designated the IPO as the single point of accountability for the effort.<sup>17</sup> However, the departments had not developed a comprehensive plan identifying the target set of capabilities that they intended to demonstrate in the pilot projects and then implement on a nationwide basis at all domestic VA and DOD sites by the end of 2012. Moreover, the departments conducted pilot projects without attending to key planning activities that are necessary to guide the initiative. For example, as of February 2011, the IPO had not developed an approved integrated master schedule, master program plan, or performance metrics for the VLER Health initiative, as outlined in the office's charter. We noted that if the departments did not address these issues, their ability to effectively deliver capabilities to support their joint health IT needs would be uncertain. We recommended that the Secretaries of VA and DOD strengthen their efforts to establish VLER by developing plans that would include scope definition, cost and schedule estimation, and project plan documentation and approval. Officials from both departments agreed with the recommendation, and we have continued to monitor their actions toward its implementation. Nevertheless, the departments were not successful in meeting their original goal of implementing VLER nationwide by the end of 2012.

#### Implementing IT Capabilities for a Joint Federal Health Care Center

VA and DOD also continued their efforts to share health information and resources in 2010 following the National Defense Authorization Act for Fiscal Year 2010 and its authorization of a 5-year demonstration project to integrate the two departments' facilities located in the North Chicago, Illinois, area into a combined medical facility.<sup>18</sup> VA and DOD facilities in and around North Chicago were integrated into a first-of-its-kind system

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<sup>16</sup>According to the departments, DOD spent \$38.3 million on the initiative in fiscal year 2010 and \$28.1 million in fiscal year 2011. Similarly, VA spent \$19.2 million on the initiative in fiscal year 2010 and \$26.2 million for fiscal year 2011.

<sup>17</sup>GAO, *Electronic Health Records: DOD and VA Should Remove Barriers and Improve Efforts to Meet Their Common System Needs*, [GAO-11-265](#) (Washington, D.C.: Feb. 2, 2011).

<sup>18</sup>Pub. L. No. 111-84, div. A, title XVII, 123 Stat. 2190, 2567-2574 (2009).

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known as the Captain James A. Lovell Federal Health Care Center (FHCC). The FHCC is unique in that it is to be the first fully integrated federal health care center for use by both VA and DOD beneficiaries, with an integrated workforce, a joint funding source, and a single line of governance.

In April 2010, the Secretaries of VA and DOD signed an executive agreement that established the FHCC and, in accordance with the fiscal year 2010 NDAA, defined the relationship between the two departments for operating the new, integrated facility. Among other things,<sup>19</sup> the executive agreement specified three key IT capabilities that VA and DOD were required to have in place by the FHCC's opening day, in October 2010, to facilitate interoperability of their electronic health record systems:

- medical single sign-on, which would allow staff to use one screen to access both the VA and DOD electronic health record systems;
- single patient registration, which would allow staff to register patients in both systems simultaneously; and
- orders portability, which would allow VA and DOD clinicians to place, manage, and update orders from either department's electronic health records systems for radiology, laboratory, consults (specialty referrals), and pharmacy services.

However, in our February 2011 report, we identified improvements the departments could make to the FHCC effort, noting that project planning for the center's IT capabilities was incomplete.<sup>20</sup> We specifically noted that the departments had not defined the project scope in a manner that identified all detailed activities. Consequently, they were not positioned to reliably estimate the project cost or establish a baseline schedule that could be used to track project performance. Based on these findings, we expressed concern that VA and DOD had jeopardized their ability to fully and expeditiously provide the FHCC's needed IT system capabilities. We recommended that the Secretaries of VA and DOD strengthen their efforts to establish the joint IT system capabilities for the FHCC by developing plans that included scope definition, cost and schedule estimation, and project plan documentation and approval. Although officials from both departments stated agreement with our

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<sup>19</sup>The executive agreement identified 12 areas of integration for the FHCC, 1 of which is information technology.

<sup>20</sup>[GAO-11-265](#).

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recommendation, the departments' actions were not sufficient to preclude delays in delivering the FHCC's IT system capabilities, as we subsequently described in July 2011 and June 2012.

Specifically, in a July 2011 report, we noted that none of the three IT capabilities had been implemented by the time of the FHCC's opening in October 2010, as required by the executive agreement.<sup>21</sup> However, FHCC officials reported that the medical single sign-on and single patient registration capabilities had become operational in December 2010.

In June 2012, we again reported on the departments' efforts to implement the FHCC's required IT capabilities and found that portions of the orders portability capability—related to the pharmacy and consults components—remained delayed.<sup>22</sup> VA and DOD officials described workarounds that the departments had implemented as a result of the delays, but could not provide a time line for completion of the pharmacy component, and estimated completion of the consults component by March 2013.

The officials reported that, as of March 2012, the departments had spent about \$122 million on developing and implementing IT capabilities at the FHCC. However, they were unable to quantify the total cost for all of the workarounds resulting from delayed IT capabilities.

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## VA and DOD Agreed to Jointly Develop a Single Integrated Electronic Health Record System

Even as the departments increased their data-sharing capacities with the aforementioned initiatives, they still continued to be faced with fragmented patient health information because of the inability to integrate their health care records. Thus, resulting from a series of meetings begun in February 2011 to discuss, among other things, their approach to electronic health records, the Secretaries of Defense and Veterans Affairs directed their respective departments to consider three competing approaches to meeting their common need for a modernized electronic

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<sup>21</sup>GAO, *VA and DOD Health Care: First Federal HealthCare Center Established, but Implementation Concerns Need to Be Addressed*, [GAO-11-570](#) (Washington, D.C.: July 19, 2011).

<sup>22</sup>GAO, *VA/DOD Federal Health Care Center: Costly Information Technology Delays Continue and Evaluation Plan Lacking*, [GAO-12-669](#) (Washington, D.C.: June 26, 2012). In this report, we noted that orders portability for radiology had become operational in June 2011 and for laboratory in March 2012.

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health record: (1) develop a new, joint electronic health record system; (2) upgrade either the existing VistA or AHLTA legacy system to meet the needs of the other organization; or (3) continue to pursue separate systems while coordinating on a common infrastructure with data interoperability. In March 2011, the secretaries committed the two departments to the first approach—that is, the development of a new common integrated electronic health record (iEHR) system. In May 2012, they announced their goal of implementing the integrated health record across the departments by 2017.

According to the departments, pursuing iEHR was expected to enable VA and DOD to align resources and investments with common business needs and programs, resulting in a platform that would replace the two departments' separate electronic health record systems with a common system. In addition, because it would involve both departments using the same system, this approach was expected to largely sidestep the challenges they had historically encountered in trying to achieve interoperability between separate systems. The departments developed an iEHR business case in August 2012 to justify this approach, which stated that the use of a common integrated system would support increased collaboration between both departments and would lead to joint investment opportunities. Further, this approach was consistent with a previous study conducted by the departments showing that over 97 percent of inpatient functional requirements were common to both VA and DOD.<sup>23</sup> According to the iEHR business case, the use of a common integrated system would address their similar health information system needs.

Toward this end, initial development plans called for the single, joint iEHR system to consist of 54 clinical capabilities that would be delivered in six increments between 2014 and 2017, with all existing applications in VistA and AHLTA continuing uninterrupted until full delivery of the new capabilities. The program had planned to send out requests for proposals (RFP) for initial iEHR capabilities in the first quarter of fiscal year 2013.

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<sup>23</sup>As we reported in [GAO-11-265](#), in 2007 the Joint Executive Council commissioned a two-phase study on the feasibility of implementing a joint VA/DOD inpatient electronic health record system, and potential alternatives for doing so. The study team reported in January 2008 that a joint inpatient electronic health record was feasible based on finding that over 97 percent of inpatient functional requirements were common to both VA and DOD. The study made a series of recommendations to the departments, and the departments accepted these recommendations in October 2008.

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Among the agreed-upon capabilities to be delivered were those supporting laboratory, anatomic pathology, pharmacy, and immunizations. In addition, the initiative was to deliver several common infrastructure components—an enterprise architecture,<sup>24</sup> presentation layer or graphical user interface, data centers, and interface and exchange standards. The system was to be primarily built by purchasing commercially available solutions for joint use, with noncommercial solutions developed or adopted only when a commercial alternative was unavailable.

According to the departments' plans, initial operating capability, which was to be achieved in 2014, was intended to establish the architecture and include deployment of new immunization and laboratory capabilities to VA and DOD facilities in San Antonio, Texas, and Hampton Roads, Virginia. Full operating capability, planned for 2017, was intended to deploy all iEHR capabilities to all VA and DOD medical facilities.

In October 2011, VA and DOD re-chartered the IPO with increased authority and expanded responsibilities for leading the integrated system effort. The charter gave the IPO responsibility for program planning and budgeting, acquisition and development, and implementation of clinical capabilities. In particular, the IPO Director was given authority to acquire, develop, and implement IT systems for iEHR, as well as to develop interagency budget and acquisition strategies that would meet VA's and DOD's respective requirements in these areas. Further, as program executive for iEHR, the director of this office was given the authority to use DOD and VA staff to support the program.

An estimate developed by the IPO in August 2012 put the cost of the integrated system at \$29 billion (adjusted for inflation) from fiscal year 2013 through fiscal year 2029. According to the office's director, this estimate included \$9 billion for the acquisition of the system and \$20 billion to sustain its operations. The office reported actually spending about \$564 million on iEHR between October 2011 and June 2013. According to the June 2013 IPO expenditure plan, these expenditures included deployment of a new graphical user interface for viewing patient

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<sup>24</sup>The iEHR architecture was defined as a modular, open, and service-oriented approach for sharing business capabilities across the DOD and VA enterprises by designing functions and applications as discrete, reusable, and business-oriented services intended to reduce redundancy and increase integration.

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data to selected locations; creation of a development and test center/environment for iEHR; planning efforts required for acquisition of the initial capabilities—laboratory, immunization, and pharmacy with orders services; and acquisition of program management, systems integration, and engineering and testing services required to ensure completion of required planning activities.

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## VA and DOD Abandoned Plans for a Single System, but Their New Approach to Achieving an Interoperable Electronic Health Record Is Not Supported by Sufficient Cost and Schedule Analysis or a Complete Plan

About 2 years after taking actions toward the development of iEHR, VA and DOD announced changes to their plan—essentially abandoning their effort to develop a single, integrated electronic health record system for both departments. In place of this initiative, the departments stated that VA would modernize its existing VistA health information system, DOD would buy a commercially available system to replace its existing AHLTA system, and the departments would ensure interoperability between the two new systems. However, the decision to change the iEHR program strategy was not justified on the basis of analyses that considered the estimated cost and schedule for the new approach of using separate systems. In addition, while the departments have begun planning for their separate modernization efforts, they have not completed plans describing how and in what time frame they intend to achieve an interoperable electronic health record.

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## The Departments Abandoned Plans for a Single System in Favor of Separate Modernization Efforts

In February 2013, the Secretaries of Defense and Veterans Affairs announced that they would not continue with their joint development of a single electronic health record system that was intended to result in an integrated electronic health record. This decision resulted from an assessment of the iEHR program that the secretaries requested in December 2012 because of their concerns about the program facing challenges in meeting deadlines, costing too much, and taking too long to deliver capabilities. Based on this assessment, the departments announced that they would rely on separate systems to achieve an interoperable electronic health record, departing from their originally planned solution of using a single system to meet their similar health information system needs. Specifically, this new approach would involve each department either developing or acquiring a new core set of electronic health record capabilities (e.g., workflow and order

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management)<sup>25</sup> with additional applications or capabilities to be added as needed.

According to senior VA and DOD officials, the development or acquisition of similar core sets of electronic health record capabilities would be achieved by VA modernizing its existing VistA health information system and DOD buying a commercially available system to replace its existing AHLTA health information system. In this regard, VA has stated that it intends to enhance and modernize its existing VistA system under a new program, called VistA Evolution. For its part, in May 2013, DOD announced that it would competitively award a contract to acquire a limited set of core capabilities that might include VistA-based commercial solutions. However, DOD then determined that, because of the need to integrate future capabilities, it would cost more to acquire and add to a limited core set of capabilities than to acquire a full suite of capabilities. Thus, the department subsequently expanded its effort and has stated that it is now pursuing the acquisition of a replacement system for its multiple legacy electronic health record systems under a new program—the DOD Healthcare Management System Modernization (DHMSM) program—that is being managed by DOD’s Under Secretary of Defense for Acquisition, Technology, and Logistics.

In addition, the departments have said they intend to focus on existing projects aimed at increasing the interoperability of health data between their legacy systems. These included expanding the use of a graphical user interface for viewing patient information; agreeing upon an approach for jointly identifying patients; developing a secure network infrastructure for VA and DOD clinicians to access patient information; and correlating, or mapping, department data to seven clinical domains<sup>26</sup> and organizing them in a standardized patient record. According to the IPO’s December 18, 2013, report to Congress, the departments completed the initial activities for these projects in December 2013 and outlined further actions the departments plan to take on these efforts.

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<sup>25</sup>A DOD-VA work group agreed to eight core requirements for iEHR. They are system management, interoperability, data model, clinical workflow, clinical display, clinical documentation and data capture, clinical decision support, and order management.

<sup>26</sup>Seven clinical domains (Laboratory, Pharmacy, Problem List, Allergies, Immunizations, Vitals, and Note Titles) will be correlated to relevant national standards.

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## VA and DOD Did Not Justify Their Change of Approach with Comparisons of Costs and Schedules

Although VA and DOD based their decision to no longer pursue a single system on the assertion that their new approach to pursue separate systems would be less expensive and faster, the departments have not demonstrated the credibility of this assertion. Best practices have identified the development and use of cost and schedule estimates as essential elements for informed decision making when selecting potential IT investments.<sup>27</sup> In particular, major investment decisions (which can include, for example, terminating or significantly restructuring an ongoing program) should be justified using analyses that compare relative costs and schedules for proposed investments. When effectively implemented, these practices help ensure that agencies have a sound rationale for their investment decisions.

However, VA and DOD have proceeded with their current plan without developing cost and schedule analyses to support the assertion that the current plan to pursue separate modernized systems while enabling interoperability between them would be less expensive and could be achieved faster than developing a single system. Consistent with best practices, such analyses would require, for example, development and documentation of revised cost and schedule estimates that include DOD's commercial acquisition, VA's modernization of VistA, and the joint interoperability effort, as well as a comparison of these with the estimates for the original single-system approach. Instead of developing such a joint analysis to consider their common health care business needs, however, each department made its own individual determination on what the best course of action would be. These determinations reflect VA's and DOD's divergent philosophies for pursuing IT systems development: VA strongly supports in-house development and modernization of its homegrown system, and DOD supports acquiring commercial solutions. Specifically, according to the VA Under Secretary for Health, pursuing a modernization of VistA instead of another solution was an obvious choice for VA because the department already owns the system and has in-house technical expertise to modernize and maintain it. Similarly, DOD considered alternatives to replace its legacy electronic health record

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<sup>27</sup>GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004); GAO *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, [GAO-09-3SP](#) (Washington, D.C.: March 2009); and GAO *Schedule Assessment Guide: Best Practices for Project Schedules*, [GAO-12-120G](#) (Washington, D.C.: May 2012).



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system and concluded that pursuing a competitively based commercial system would be best for the department. The Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L) stated that acquiring a commercial system was the right business decision for DOD because the department is not in the business of developing IT systems, particularly when more advanced electronic health record solutions are available commercially. He added that VA's reasons for modernizing VistA were logical for that department but did not apply to DOD. However, neither of the determinations made by VA and DOD considered cost and schedule estimates for modernizing or acquiring the departments' new systems and achieving interoperability between them. Further, VA and DOD lack a process for identifying joint IT investments, which could be a means of reconciling the departments' divergent approaches, and is one of the barriers to jointly addressing their health care system needs that we identified in February 2011 and recommended they address.<sup>28</sup>

Because their new approach is based on the courses of action that VA and DOD have independently determined to be best for them, and because they lack cost and schedule analyses to guide their decision making, the departments have not demonstrated that their new approach will provide service members, veterans, and their health care providers with an interoperable electronic health record at lower cost and in less time than the original plan.

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**The Departments Have Begun Separate Modernization Efforts, but Plans for Delivering an Interoperable Electronic Health Record Remain Undeveloped**

While VA and DOD have begun to pursue separate systems, they have not developed plans at either a strategic or program level that describe how they intend to achieve an interoperable electronic health record. Industry best practices and IT project management principles stress the importance of sound planning for any project.<sup>29</sup> Inherent in such planning is the development and use of a project management plan that includes the project's scope, lines of responsibility for all stakeholders, resource requirements, an estimated schedule for development and implementation, and performance measures. Additionally, plans should identify and prioritize program risks so that potential problems can be avoided before they become actual cost, schedule, and performance

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<sup>28</sup>GAO-11-265.

<sup>29</sup>Institute of Electrical and Electronics Engineers, IEEE/EIA *Guide for Information Technology*, IEEE/EIA 12207.1-1997 (April 1998).

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shortfalls. In addition, the National Defense Authorization Act (NDAA) for Fiscal Year 2014 required the departments to provide a detailed programs plan for the oversight and execution of an interoperable electronic health record between the departments no later than January 31, 2014.<sup>30</sup>

Since VA and DOD announced their new approach in February 2013, the departments have been focused on planning for their separate modernization efforts:

- In December 2013, VA developed a VistA Evolution program plan for initial operating capability that is focused on system enhancements for VistA intended to provide at least two enhanced clinical capabilities to be deployed at two VA sites by the end of fiscal year 2014. The department is in the process of developing a separate program plan for VistA Evolution that is intended to provide an overview of VA's efforts to achieve full operating capability by September 30, 2017.
- DOD released an initial draft RFP to industry on January 29, 2014, with a goal to release the final RFP for the system's acquisition in July 2014. According to the DOD Healthcare Management Systems (DHMS) Program Executive Officer, following the release of the RFP, the department plans to award a contract for the replacement system in the third quarter of fiscal year 2015, with a goal of achieving initial operating capability for the program in the fourth quarter of fiscal year 2016. According to a DOD Acquisition Decision Memorandum in January 2014, the DHMS Program Executive Officer is to develop a health data-sharing and interoperability road map that is to address interoperability with VA, private health care providers, and patients. The road map is to be provided to DOD management by March 2014 for review.

Additionally, in response to the fiscal year 2014 NDAA, VA and DOD briefed congressional staff in late January 2014 on their plans for VistA Evolution, plans for the DHMSM program, and their intention to achieve an interoperable electronic health record. Despite this briefing and initial steps toward their separate modernization efforts, the departments have not developed a plan that describes how they intend to achieve an interoperable electronic health record under their new approach of pursuing separate system modernizations. Specifically, the departments

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<sup>30</sup>Pub. L. No. 113-66, § 713, 127 Stat. 672, 794-799 (2013).

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have not identified which clinical domains of health data will comprise the interoperable electronic health record, the estimated cost and schedule for the effort, or the lines of responsibility for all stakeholders involved. In addition, risks have not been identified and prioritized in order to help avoid potential problems before they become actual cost, schedule, and performance problems. Without having plans in place to provide key information on their effort to create an interoperable electronic health record, the departments are increasing the risk that the new approach will not be more cost efficient and timely than if they had continued with the single-system approach.

Moreover, in 2011, we reported that VA's and DOD's joint strategic plan did not discuss how or when they proposed to identify and develop joint solutions to address their common health IT needs.<sup>31</sup> Accordingly, we recommended that they revise the joint strategic plan to include information discussing their electronic health record system modernization efforts and how those efforts will address the departments' common health care business needs. However, the departments' most recent joint strategic plan, which was released in March 2013 and covers fiscal years 2013 through 2015, does not reflect their current approach. In July 2013, the VA/DOD Joint Executive Council tasked the IPO with preparing an addendum to the joint strategic plan that would reflect the departments' revised joint activities, milestones, metrics, and time lines for creating an interoperable health record. However, while the departments have begun planning to separately modernize their electronic health record systems and have identified the need to make these systems interoperable, they have not revised their plan for doing so. According to VA and DOD officials, as of January 2014, a draft addendum to the joint strategic plan was being reviewed by the departments' senior leaders, but the officials could not say when the addendum is to be finalized. Until VA and DOD provide a plan that reflects their current approach, the departments and their stakeholders may not have a shared understanding of how they intend to address their common health care business needs, including an interoperable electronic health record, going forward.

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<sup>31</sup>[GAO-11-265](#).

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## Collaboration between VA and DOD Has Been Hindered by Long-standing Barriers and Ineffective Implementation of the IPO

We have previously reported on IT management barriers that prevented the departments from effectively collaborating to address their common health care system needs in the areas of enterprise architecture and IT investment management. We have followed the departments' efforts to address these barriers and have found that important work still remains.<sup>32</sup> In addition, the Interagency Program Office, established by the fiscal year 2008 NDAA to act as a single point of accountability for the departments' development and implementation of interoperable health records, was to better position the departments to collaborate. Our work on interagency collaboration has shown that successful collaboration depends on a number of factors, including identifying resources, establishing compatible policies and procedures, and agreeing on clear lines of responsibility and accountability.<sup>33</sup> We have also identified a variety of mechanisms that federal agencies use to implement interagency collaborative efforts, including interagency offices, to carry out joint activities on behalf of the participating departments.<sup>34</sup> However, despite the direction given in the fiscal year 2008 NDAA, and the departments' repeated efforts to re-charter the office, VA and DOD did not implement the IPO as an effective mechanism for interagency collaboration. Specifically, the departments did not provide the IPO with authority over essential resources or with the autonomy to establish key interagency processes for managing joint activities. Additionally, VA and DOD established a complex governance structure for the office, which weakened its ability to serve as the single point of accountability for the departments' development and implementation of fully interoperable electronic health record systems or capabilities. Moreover, the departments' December 2013 re-chartering of the IPO significantly reduces the office's role, responsibilities, and authority over VA and DOD's joint health IT efforts, and raises concerns about the office's ability to serve as an effective mechanism for interagency collaboration and the single point of accountability for the departments' joint health IT efforts.

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<sup>32</sup>GAO, *Government Operations: Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, [GAO-11-318SP](#) (Washington, D.C.: March 2011); *Follow-up on 2011 Report: Status of Actions Taken to Reduce Duplication, Overlap, and Fragmentation, Save Tax Dollars, and Enhance Revenue*, [GAO-12-453SP](#) (Washington, D.C.: February 2012); [GAO-13-413T](#); and [http://www.gao.gov/duplication/action\\_tracker/DOD\\_and\\_VA\\_Electronic\\_Health\\_Records\\_Systems/action1](http://www.gao.gov/duplication/action_tracker/DOD_and_VA_Electronic_Health_Records_Systems/action1).

<sup>33</sup>[GAO-06-15](#).

<sup>34</sup>[GAO-12-1022](#).

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## VA and DOD Have Not Addressed Barriers to Jointly Addressing Their Common Health Care System Needs

In February 2011, we highlighted barriers that VA and DOD faced in addressing their common health IT needs.<sup>35</sup> For example, although VA and DOD had taken steps toward developing and maintaining artifacts related to a joint health architecture (i.e., a description of business processes and supporting technologies), the architecture was not sufficiently mature to guide the departments' joint health IT modernization efforts. Further, the departments had not established a joint process for selecting IT investments based on criteria that consider cost, benefit, schedule, and risk elements, limiting their ability to pursue joint health IT solutions that both meet their needs and provide better value and benefits to the government as a whole. We noted that without having these key IT management capabilities in place, the departments would continue to face barriers to identifying and implementing IT solutions that addressed their common needs. Accordingly, we identified several actions that the Secretaries of Defense and Veterans Affairs could take to overcome these barriers, including the following:

- Further develop the departments' joint health architecture to include the planned future state and plan for transitioning from their current state to the next generation of electronic health record capabilities.
- Define and implement a process, including criteria that consider costs, benefits, schedule, and risks, for identifying and selecting joint IT investments to meet the departments' common health care business needs.

Officials from both VA and DOD agreed with these recommendations, and we have continued to monitor their actions toward implementing them.<sup>36</sup> Nonetheless, the actions taken by VA and DOD have not been sufficient to overcome the departments' long-standing barriers to collaborating on their joint health IT efforts, and important work remains.

For example, VA and DOD have not further developed a joint health architecture that could guide their efforts to address their common health care business needs, as we recommended. The departments had undertaken certain actions, but these have been overtaken by events or are tangential to developing the architecture. For example, in January

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<sup>35</sup> [GAO-11-265](#).

<sup>36</sup> [GAO-11-318SP](#); [GAO-12-453SP](#); [GAO-13-413T](#); and [http://www.gao.gov/duplication/action\\_tracker/DOD\\_and\\_VA\\_Electronic\\_Health\\_Records\\_Systems/action1](http://www.gao.gov/duplication/action_tracker/DOD_and_VA_Electronic_Health_Records_Systems/action1).

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2013 the IPO developed an Enterprise Architecture Management Plan to provide guidance for developing joint architecture products, identify architecture governance bodies and stakeholder responsibilities, and propose high-level time lines for architecture-related activities. However, according to VA and DOD officials, this plan is no longer operative because it does not reflect the departments' decision to pursue separate electronic health record system modernization efforts. In addition, in December 2013 the departments revised the charter for the IPO, which describes the importance of identifying and adopting health IT standards to seamlessly integrate VA and DOD health care record data. The charter also specifies that the IPO is responsible for working with the departments' Health Architecture Review Board to ensure that both departments are appropriately synchronized and coordinated. While these recent activities are peripherally related to development of the joint health architecture, VA and DOD have not yet developed architecture artifacts that describe their planned future state and how they intend to transition to that future state. Until the departments have an understanding of the common business processes and technologies that a joint health architecture can provide, they will continue to lack an essential tool for jointly addressing their common health IT needs.

Further, VA and DOD initiated, but did not sustain, two courses of action that were potentially responsive to our recommendation to establish a joint IT investment management process. First, the departments established the IPO Advisory Board in October 2011 to monitor the iEHR program's progress toward meeting cost, schedule, and performance milestones. However, the advisory board did not meet after June 2013 and was disbanded as a result of the departments' decision to pursue separate modernizations of their electronic health record systems. Second, in August 2012 the departments established a working group under the Interagency Clinical Informatics Board to identify potential health IT investments for the departments to consider for joint adoption. However, the group has not met since June 2013 and, according to VA and DOD officials, its activities have been suspended while the departments continue to define their separate modernization efforts and their electronic health data interoperability needs. Moreover, the group was not involved in helping the departments identify and select the separate electronic health record investments VA and DOD now plan to undertake to meet their common health care business needs. Because VA and DOD have not implemented a process for identifying and selecting joint IT investments, the departments have not demonstrated that their approach to meeting their common health care business needs

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has considered the costs, benefits, schedule, and risks of planned investments.

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### VA and DOD Did Not Implement the IPO Consistent with Effective Collaboration Practices

Best practices recognize that an office such as the IPO has the potential to serve as a mechanism for interagency collaboration, provided that the collaborating departments adopt a number of practices to sustain it. These include identifying resources, establishing compatible policies and procedures, and agreeing on clear lines of responsibility and accountability, including how the collaborative effort will be led. Best practices have also found that without this, the collaborating departments may not be willing to fully commit to the joint effort, and may also be unable to overcome other barriers, such as concerns about protecting jurisdiction over missions and control over resources.<sup>37</sup>

Despite VA and DOD's pledge to work together to address their common health IT needs, the departments did not implement the IPO consistent with best practices for interagency collaboration and, in some cases, with the office's charter.<sup>38</sup> Specifically, the departments did not follow through with commitments made in the IPO's 2011 charter related to its authority over the iEHR program's budget, staffing, and interagency processes. In addition, the departments implemented the office with multiple layers of governance and oversight, which has resulted in unclear lines of authority and accountability for the departments' collaborative health IT efforts.

**Budgetary control:** Historically, the IPO has been challenged by a lack of control over the funding designated for the departments' joint health IT

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<sup>37</sup>[GAO-06-15](#).

<sup>38</sup>The departments have issued four charters since the IPO was established in law in 2008. The IPO's first charter was signed by the Under Secretary of Defense for Personnel and Readiness and Deputy Secretary of VA in January 2009. Both the second and third charters were signed by the Deputy Secretary of Defense and Deputy Secretary of VA in September 2009 and October 2011, respectively. Finally, the IPO's fourth charter was signed in December 2013 by the Under Secretary of Defense for Acquisition, Technology, and Logistics and the VA Executive in Charge, Office of Information and Technology and Chief Information Officer.

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efforts. For example, in July 2011 a former director of the office testified<sup>39</sup> that the IPO's 2009 charter had established a modest role for the office, and thus, the office did not have control over the budget for those initiatives for which it was responsible; rather, this control remained with VA and DOD.<sup>40</sup> When the departments re-chartered the IPO in 2011, they included language related to the office having budgetary control over the iEHR program. For example, this charter gave the IPO Director the authority to manage budgeting and finances related to the planning and acquisition of the iEHR capabilities. In addition, the charter provided the director with the authority to develop and propose interagency budget submissions for iEHR to the departments. Nevertheless, even with these revisions to its charter, the IPO was not fully empowered to execute funds related to iEHR because the departments have different processes for budgeting IT programs and, in VA's case, for releasing funds for IT development. According to the Deputy Chief Management Officer, DOD had a dedicated fund for the iEHR program, which the IPO Director had authority to execute. However, VA funded the iEHR program through several funds, including IT appropriations that VA officials asserted could only be executed by the Chief Information Officer (CIO). As a result, the IPO Director was required to request funding for iEHR-related activities from VA on a project-by-project basis. According to one of the iEHR program managers, although this process did not necessarily cause delays to iEHR projects, it was a source of continuous frustration for the IPO Director because it did not provide the expected level of control over the program's budget, as described in the office's charter.

**Staffing:** When VA and DOD designated the IPO to lead the iEHR program in 2011, they recognized that the office would need to be

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<sup>39</sup>This testimony was in reference to legislation that called for VA and DOD to address some of the IPO's organizational limitations, including the office's lack of a separate, dedicated budget line item in the departments' respective annual budget submissions, and the office's governance structure. See Ensuring Servicemembers' Electronic Records' Viability Act (H.R. 2470), introduced on July 8, 2011; referred to the House Subcommittee on Military Personnel on August 15, 2011.

<sup>40</sup>Legislative Hearing on H.R. 2383, H.R. 2243, H.R. 2388, and H.R. 2470, Before the Subcommittee on Oversight and Investigations of the Committee on Veterans' Affairs, U.S. House of Representatives, 112th Cong., First Session (July 20, 2011) (statement of Debra M. Filippi, Former Director, U.S. Department of Defense/U.S. Department of Veterans Affairs Interagency Program Office), February 25, 2012, <http://veterans.house.gov/prepared-statement/prepared-statement-debra-m-filippi-formerdirector-us-department-defenseus>.



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expanded to accommodate its new responsibilities. To this end, the departments and the IPO determined that the office would require a significant increase in personnel—more than 7 times the number of staff originally allotted to the office by VA and DOD—to complete hiring under the office’s 2011 charter. However, while each of the departments provided personnel to the IPO through reassignments and short-term details of personnel, the departments did not fully staff the office as planned.<sup>41</sup> For example, a staffing report from early November 2012 showed that, at that time, the IPO was staffed at about 60 percent. Specifically, while the office consisted of 101 reassigned VA and DOD staff and 43 detailed staff, 95 positions remained vacant. Further, in January 2013, the IPO Director stated that the office was staffed at approximately 62 percent and that hiring additional staff remained one of its biggest challenges, partly due to a hiring freeze within the TRICARE Management Activity. In addition, VA’s iEHR program manager noted that recruiting staff for the IPO was a persistent challenge because the departments required health IT professionals with specialized technical expertise. Further, the official noted that VA faced a disadvantage in hiring qualified candidates because it had to compete with private-sector companies and also had decided to generally limit the hiring pool to candidates in the Washington, D.C., area.

**Interagency processes:** As the departments began establishing the infrastructure to support the iEHR program in mid-2011, they recognized that their disparate processes related to, for example, acquisitions and contracting would need to be aligned in order for the IPO to effectively fulfill its responsibilities.<sup>42</sup> To accomplish this, the departments provided the IPO Director with the authority to develop interagency processes in the office’s 2011 charter. However, instead of agreeing to use one process or developing a truly integrated approach to joint acquisitions, the office opted to follow both VA’s and DOD’s processes—an inherently

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<sup>41</sup>In order to help meet the IPO’s hiring needs, the departments agreed that staff could be detailed to the IPO for a period of 120 days. The departments used this process to fill several key leadership positions, including the IPO Deputy Director.

<sup>42</sup>Within their respective departments, VA and DOD have established their own processes for managing acquisitions and contracting. Although the IPO had a contracting officer on staff at the time of our review, all of the contracts for work conducted for the iEHR program had been issued and managed through existing VA and DOD contracting offices, including VA’s Technology Acquisition Center, the Space and Naval Warfare Systems Command, and the United States Army Medical Research Acquisition Activity.

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inefficient approach.<sup>43</sup> According to a senior official within VA's Office of Information and Technology, this decision created an undue burden on the iEHR program office because it had to meet the requirements of two different contracting and acquisition processes. For example, according to iEHR program documentation, the office would have had to develop over 1,300 documents for one of the planned iEHR increments composed of 14 projects in order to comply with both departments' acquisition requirements. Although the iEHR program was redirected before the IPO made significant progress toward acquiring joint EHR capabilities, this provides an example of one area where the departments were unable to compromise on their own processes in order to further their common health IT goals.

**Governance and oversight:** As the departments proceeded to implement the IPO and move forward with the iEHR program, they established a complex governance structure to oversee the office's activities. However, this contributed to conflict over who was ultimately responsible for making program decisions and has resulted in unclear lines of authority and accountability for the departments' collaborative health IT efforts. Specifically, while the IPO's 2011 charter provided broad decision-making authority to the IPO Director related to acquiring, developing, and implementing all common VA/DOD health IT systems, capabilities, and initiatives, it also provided numerous officials with operational oversight over the office;<sup>44</sup> identified several interagency organizations to provide oversight to the IPO related to, for example, requirements development and enterprise architecture; and established an advisory board to provide counsel and recommendations on the iEHR program to VA and DOD leadership. As a result, the IPO Director did not always have full authority over program decisions as described in the

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<sup>43</sup>Specifically, the IPO's "integrated acquisition framework" consisted of using DOD's Business Capability Lifecycle process to manage the iEHR program's multiple increments concurrently with VA's Project Management Accountability System to oversee and monitor multiple iEHR projects within each increment.

<sup>44</sup>The IPO's 2011 charter provided DOD's Deputy Chief Management Officer and VA's Assistant Secretary for Information and Technology with operational oversight of the IPO. In addition the charter cited the Assistant Secretary of Defense for Health Affairs and the Under Secretary of Defense for Personnel and Readiness as having authority, direction, and control over the IPO, due to the office's organizational placement within DOD for the purposes of administrative management and supervision. Note that on October 1, 2013, DOD established the Defense Health Agency to manage the activities of the Military Health System (including TRICARE Management Activity).

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office's charter, and was expected to seek consensus from VA and DOD supervising officials or the IPO's governance organizations before proceeding. Conversely, one of the IPO's governing bodies raised concerns about the office's willingness to appropriately involve them in the iEHR program. Specifically, the co-chairs of the Health Architecture Review Board raised concerns to the Health Executive Committee that the IPO had not been receptive to involving the board throughout the design and acquisition process for the iEHR program. According to these officials, the board's inability to participate throughout the process resulted in unnecessary delays to the IT acquisition process. In a December 2012 assessment prepared to help define the iEHR program's new direction, VA and DOD officials cited governance and oversight as challenges to the program, including group decision making. In an effort to mitigate this problem, the departments chose to shift decision-making authority away from the IPO Director and in January 2013 established an executive committee of two VA and two DOD executive officials to oversee the IPO and make decisions for the iEHR program.

Given the changes that VA and DOD have made to their approach for developing an interoperable electronic health record, it remains to be seen how the departments will proceed with implementing the IPO and to what extent the office will be leveraged as a mechanism for effective interagency collaboration. Nevertheless, until VA and DOD address these long-standing issues, their ability to effectively collaborate through the IPO on their joint health IT efforts will be limited.

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## VA and DOD Have Reduced the IPO's Role and Responsibilities

As stated earlier, the fiscal year 2008 NDAA established the IPO under the direction, supervision, and control of both the Secretaries of VA and Defense to serve as the single point of accountability for the departments' development and implementation of interoperable electronic health records. The IPO was to better position the departments to collaborate on joint health IT initiatives. However, the departments recently made decisions that reduced the IPO's role, responsibilities, and authority over the departments' joint health IT efforts, jeopardizing its ability to serve as the single point of accountability for the development and implementation of interoperable electronic health records.

In December 2013, VA and DOD revised the IPO's charter, thus reducing the office's responsibilities from leading and managing all aspects of the iEHR program to overseeing the departments' adoption of health data standards for ensuring integration of health data between their modernized health IT systems. For example, the IPO's 2011 charter

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authorized the office to lead and manage all interagency planning, programming and budgeting, contracting, acquisition, data strategy and management (including identifying standards for interoperability), testing, and implementation for the iEHR program. In contrast, under the revised charter, the IPO is to engage with national and international health standards-setting organizations to ensure their resulting standards meet the needs of VA and DOD; identify data and messaging standards for VA and DOD health IT solutions; and monitor and report on the departments' use of and compliance with the adopted standards. Moreover, the revised charter does not acknowledge or address the office's long-standing weaknesses related to budgetary control, staffing, developing interagency processes, and governance. Specifically:

- Although the 2013 charter describes how the departments generally intend to share the costs of their planned interoperability work, VA and DOD have not explicitly addressed whether or not the IPO Director has budgetary control over the office's initiatives. As written, the charter suggests that this authority will remain with the departments.
- Similar to the 2011 charter, the 2013 charter states that the departments will rely on a combination of reassigned VA and DOD personnel and detailees to fill the IPO's positions. As of early January 2014, VA and DOD officials stated that they were in the process of transitioning IPO personnel back to their respective departments, and were identifying individuals to serve as leads within each department for their joint interoperability projects. However, although these officials stated that they anticipate the office will require significantly fewer personnel than expected under the iEHR program, staffing for the IPO remains uncertain. Moreover, the departments have not yet addressed how to competitively recruit and retain personnel with the required technical expertise to develop and implement an interoperable electronic health record.
- The 2013 charter does not explicitly address the extent to which the IPO has the authority to develop interagency processes to fulfill its mission, although it is implied in the office's responsibilities. For example, the charter states that the IPO will work with the Health Architecture Review Board "to ensure that both departments are appropriately synchronized and coordinated"; yet, according to the co-chairs of this board, the details of this process have not been discussed or defined.

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- In addition, despite the IPO's reduced role and responsibilities, the 2013 charter maintains a complex governance structure. For example, the charter states that the IPO Director<sup>45</sup> reports through the DHMS Program Executive Officer to the Under Secretary of Defense (AT&L), while the IPO Deputy Director reports through the IPO Director to the VA Assistant Secretary for Information and Technology and CIO. However, the charter does not describe whether or how the IPO Director reports to VA leadership. Further, the charter identifies numerous executive-level individuals and organizations to provide direction, oversight, and guidance to the IPO, including the Joint Executive Committee, the Under Secretary of Defense (AT&L), the VA CIO, and a DOD/VA Senior Stakeholder Group that will include functional, technical, acquisition, and resource leadership from both departments.<sup>46</sup> Given this extensive level of management and oversight, it is unclear to what extent the IPO leadership will have decision-making authority over the office's interoperability efforts.

Further, the IPO's 2013 charter maintains that the office will remain the single point of accountability for the development and implementation of interoperable electronic health records between VA and DOD. However, in addition to reducing the IPO's role, responsibilities, and authority over these efforts in its 2013 charter, the departments have identified other offices to execute health data interoperability initiatives formerly managed by the IPO. For example, in January 2014, the Under Secretary of Defense (AT&L) decided to consolidate the execution of all DOD IT health data-sharing projects formerly managed by the IPO and the Defense Health Agency within a new program office under the DHMS Program Executive Officer. These projects include VLER Health, ongoing data federation efforts, and longtime data-sharing initiatives with VA, including the Federal Health Information Exchange, the Bidirectional Health Information Exchange, and the Clinical Data Repository/Health Data Repository. According to the decision memo, resources associated with these health data interoperability efforts will be reassigned from the IPO and the Defense Health Agency to the DHMSM program. Similarly, in

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<sup>45</sup>Currently, the DHMS Program Executive Officer serves as both the acting IPO Director and the head of DOD's EHR modernization effort.

<sup>46</sup>According to the IPO's 2013 charter, the DOD/VA Senior Stakeholder Group will be co-chaired by the Under Secretary of Defense (AT&L) and VA CIO and will be responsible for directing and overseeing the IPO's execution of its responsibilities; the group will also consult and provide recommendations to department officials regarding the IPO's budget and staffing plans.

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January 2014 the Veterans Health Administration's Chief Medical Informatics Officer stated that interoperability programs are in the process of being consolidated under their Office of Health Informatics and Analytics and will be managed along with VA's Office of Information and Technology.

Overall, a disconnect exists between the IPO's responsibility to serve as VA and DOD's single point of accountability for their health data interoperability efforts and the role described in the office's December 2013 charter. When asked how the IPO will be able to serve as the single point of accountability for the departments' joint health IT efforts given these changes, the DHMS Program Executive Officer stated that he did not think that the changes impact the IPO's role at all because the office is responsible for ensuring that the departments adopt a sound technical approach for interoperability. Nevertheless, VA's and DOD's decisions to diminish the IPO's role and move responsibilities for interoperability elsewhere within their respective departments jeopardize the office's ability to serve as the departments' single point of accountability for the development and implementation of interoperable electronic health records. Moreover, the departments' recent actions raise concerns about their intention to use the IPO as a mechanism for collaboration going forward.

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## Conclusions

VA and DOD lost valuable time toward providing service members, veterans, and their health care providers with a long-awaited interoperable electronic health record by agreeing to initiate joint development of a single system in March 2011, and then deciding in February 2013 that the endeavor was too expensive and that the planned system would take too long to develop. The departments are now in the process of planning to use separate systems—VA intends to modernize its existing VistA system and DOD plans to acquire a commercially available system—while they are also to jointly develop capabilities to provide interoperability between the systems. In abandoning the single-system approach, the departments asserted that their new, multiple-system approach will be less expensive and faster. However, the departments' assertion is questionable because they have not developed cost and schedule estimates to substantiate their claim or justify their decision. In the absence of credible analyses to guide decisions about how to cost-effectively and expeditiously develop the interoperable electronic health record needed to provide service members and veterans with the best possible care, VA and DOD have fallen back on the divergent approaches that each department has determined to be best for

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it—VA intends to modernize VistA, and DOD expects to acquire a new commercially available system. While the departments have begun planning for these separate systems, they have yet to develop plans describing what a future interoperable health record will consist of or how, when, and at what cost it will be achieved.

Further, even though VA and DOD have determined that their electronic health record system needs overlap, the departments have neither removed long-standing barriers to working together to address their common needs nor positioned the Interagency Program Office for effective collaboration going forward. Their slow pace in addressing recommendations we made to address these barriers has hindered their efforts to identify and implement IT solutions that meet their common needs. Further, the departments' failure to implement the IPO consistent with effective collaboration practices may hamper its efforts to serve as a focal point for future collaboration. Moreover, the departments' recent decisions to move certain interoperability responsibilities to other offices within VA and DOD may further undermine the IPO's effectiveness. Because the IPO is expected to play a key role—establishing interoperability between VA's modernized VistA and DOD's to-be-acquired system—it is important that the departments take steps to better implement the office as an effective mechanism for collaboration and the single point of accountability for their joint health IT efforts.

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## Recommendations for Executive Action

To bring transparency and credibility to the Secretaries of Veterans Affairs and Defense's assertion that VA and DOD's current approach to achieving an interoperable electronic health record will cost less and take less time than the previous single-system approach, we recommend that the secretaries

- develop a cost and schedule estimate for their current approach, from the perspective of both departments, that includes the estimated cost and schedule of VA's VistA Evolution program, DOD's DHMSM program, and the departments' joint efforts to achieve interoperability between the two systems; then,
- compare the cost and schedule estimates of the departments' current and previous (i.e., single-system) approaches.

If the results of the comparison indicate that the departments' current approach is estimated to cost more and/or take longer than the single-system approach,

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- provide a rationale for pursuing the current approach despite its higher cost and/or longer schedule and
  - report the cost and schedule estimates of the current and previous approaches, results of the comparison of the estimates, and reasons (if applicable) for pursuing a more costly or time-consuming approach to VA's and DOD's congressional authorizing and appropriations committees.

To better position VA and DOD to achieve an interoperable electronic health record, we recommend that the Secretaries of Veterans Affairs and Defense develop a plan that, at a minimum, describes

- the clinical domains that the interoperable electronic health record will address;
- a schedule for implementing the interoperable record at each VA and DOD location;
- the estimated cost of each major component (i.e., VistA Evolution, DHMSM, etc.) and the total cost of the departments' interoperability efforts;
- the organizations within VA and DOD that are involved in acquiring, developing, and implementing the record, as well as the roles and responsibilities of these organizations;
- major risks to the departments' interoperability efforts and mitigation plans for those risks; and
- the departments' approach to defining, measuring, tracking, and reporting progress toward achieving expected performance (i.e., benefits and results) of the interoperable record.

To better position the Interagency Program Office for effective collaboration between VA and DOD and to efficiently and effectively fulfill the office's stated purpose of functioning as the single point of accountability for achieving interoperability between the departments' electronic health record systems, we recommend that the Secretaries of Veterans Affairs and Defense ensure that the IPO has authority

- over dedicated resources (e.g., budget and staff),
- to develop interagency processes, and
- to make decisions over the departments' interoperability efforts.



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## Agency Comments and Our Evaluation

We received written comments on a draft of this report (reprinted in appendix II), signed by the VA Chief of Staff and the Acting Under Secretary of Defense for Personnel and Readiness. In their comments, the departments concurred with our recommendations and noted actions that were being taken. In particular, with regard to our recommendation that VA and DOD develop cost and schedule estimates for their current approach to creating an interoperable electronic health record, and then compare them with the estimated cost and schedule for the iEHR approach, both departments said they have these actions under way and that initial comparisons have indicated that their current approach will be more cost effective. Further, with regard to our recommendation calling for a detailed interoperability plan, the departments stated that they are developing such a plan. Lastly, with respect to our recommendation to strengthen the IPO for effective collaboration, the departments stated that the IPO will remain the single point of accountability for achieving interoperability between VA's and DOD's electronic health record systems. If the departments fully implement our recommendations, they should be better positioned to economically and efficiently achieve the interoperable electronic health record they have long pursued. VA and DOD also provided technical comments on the draft report, which we incorporated as appropriate.

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We are sending copies of this report to appropriate congressional committees, the Secretary of Veterans Affairs, the Secretary of Defense, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have questions about this report, please contact me at (202) 512-6304 or [melvinv@gao.gov](mailto:melvinv@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

Sincerely yours,



Valerie C. Melvin  
Director, Information Management  
and Technology Resources Issues

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# Appendix I: Objectives, Scope, and Methodology

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The objectives of this study were to (1) describe changes the Department of Defense (DOD) and Department of Veterans Affairs (VA) have made to the Integrated Electronic Health Record (iEHR) program since its inception, and evaluate the departments' current plans for the program and (2) determine whether the departments, including the DOD/VA Interagency Program Office (IPO), are effectively collaborating on management of the iEHR program.

To describe the changes to the iEHR program since its inception, we obtained and reviewed minutes and briefing slides from meetings held between the VA and DOD Secretaries between February 2011 and February 2013. In addition, we obtained and reviewed DOD acquisition decision memorandums issued between 2011 and 2013 and minutes and briefing slides from meetings for the IPO Advisory Board between April 2012 and April 2013. We also reviewed iEHR program documentation, including the business case, program management plan, integrated program-level requirements document, the June 2013 iEHR expenditure plan, and program management review briefings.

To evaluate the current plans for the program, we reviewed documentation and plans supporting efforts to complete four iEHR near-term projects, including iEHR project briefing slides and iEHR program management review briefings. We obtained information on the departments' new health modernization efforts, VA's VistA Evolution program and DOD's Healthcare Management System Modernization program, through interviews with relevant officials. We also attended three iEHR and health information exchange summits in Washington, D.C., and Alexandria, Virginia. In addition, we compared statements made and documentation the departments provided to support the shift in the program strategy for iEHR against effective management practices.<sup>1</sup>

To determine the effectiveness of collaboration by VA, DOD, and the IPO, we identified and analyzed the departments' actions in response to recommendations we previously made to address barriers VA and DOD

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<sup>1</sup>GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004); GAO *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, [GAO-09-3SP](#) (Washington, D.C.: March 2009); GAO *Schedule Assessment Guide: Best Practices for project schedules*, [GAO-12-120G](#) (Washington, D.C.: May 2012).

faced in addressing their common health IT needs.<sup>2</sup> Additionally, we analyzed the 2011 and 2013 IPO charters and compared them to the requirements that were established for the IPO in the National Defense Authorization Act for 2008. We focused our analysis in the areas of funding, staffing, and interagency processes and compared written and verbal information on the departments' implementation of the IPO against best practices for facilitating interagency collaboration. We also analyzed the governance structure for the IPO and the iEHR program, including organizational charts and charters that established the reporting structure between the IPO, VA and DOD, and several interagency organizations designated to provide oversight to the iEHR program. To better understand the decision making for the program, we analyzed briefing slides and minutes from the secretaries' quarterly meetings, and the IPO Advisory Board's bi-weekly meetings, as well as iEHR-related decision memorandums issued by the departments.

We supplemented our analyses with interviews of VA, DOD, and IPO officials with knowledge of the iEHR Program, including VA's Under Secretary for Health, VA's Assistant Secretary for Information and Technology and Chief Information Officer, DOD's Assistant Secretary of Defense for Health Affairs, DOD's Deputy Chief Management Officer, and the IPO Director.

We conducted this performance audit from September 2012 to February 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>2</sup>GAO, *Electronic Health Records: DOD and VA Should Remove Barriers and Improve Efforts to Meet Their Common System Needs*, [GAO-11-265](#) (Washington, D.C.: Feb. 2, 2011).

# Appendix II: Joint Comments from the Departments of Veterans Affairs and Defense

FEB 21 2014

Ms. Valerie C. Melvin  
Director, Information Management and Technology Resources Issues  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Ms. Melvin:

As a result of our continuing efforts to provide the best possible support for our Service members and Veterans, the Departments are working to achieve two distinct but complementary goals. First, in the near-term, we are working to create seamless integration of Department of Defense (DoD), Department of Veterans Affairs (VA), and private provider health data. Second, in the mid-term, we are working to modernize the software supporting DoD and VA clinicians. Together, these two goals will help to create an environment in which clinicians and patients from both Departments are able to share current and future health care information for continuity of care and improved treatment. As we strive to build on our successful history of health data sharing and collaboration, we understand our EHR modernization efforts are complicated, dynamic, and multi-faceted.

Enclosed is a joint DoD and VA response to the Government Accountability Office's (GAO) draft report GAO-14-302, "ELECTRONIC HEALTH RECORDS: VA and DOD Need to Support Cost and Schedule Claims, Develop Interoperability Plans, and Improve Collaboration," dated January 29, 2014 (GAO Code - 310992). We appreciate the opportunity to comment on the draft report.

We have also included some technical comments regarding details contained in the body of the report that we believe will add clarity, and in some instances, improve accuracy.

Please direct any questions to the points of contact on this matter, Mr. Christopher Miller, who may be reached at (703) 588-8719 or Christopher.Miller@dha.mil; and Mr. Brian Burns, who can be reached at (202) 461-6910 or Brian.Burns2@va.gov.

Sincerely,

  
Jessica L. Wright  
Acting

  
José D. Riojas  
Chief of Staff

Enclosure:  
As stated

GAO DRAFT REPORT DATED JANUARY 29, 2014  
GAO-14-302 (GAO CODE 310992)

**“ELECTRONIC HEALTH RECORDS: VA and DOD Need to Support Cost and  
Schedule Claims, Develop Interoperability Plans, and Improve Collaboration”**

**JOINT DoD/VA COMMENTS**

**RECOMMENDATION 1:** To bring transparency and credibility to the Secretaries of Veterans Affairs and Defense’s assertion that VA and DOD’s current approach to achieving an integrated electronic health record will cost less and take less time than the previous single-system approach, we recommend that the Secretaries

- develop a cost and schedule estimate for their current approach, from the perspective of both Departments, that includes the estimated cost and schedule of VA’s VistA evolution program, DOD’s DHSM program, and the Departments’ joint efforts to achieve interoperability between the two systems; then,
- compare the cost and schedule estimates of the Departments’ current and previous (i.e., single-system) approach.

If the results of the comparison indicate that the Departments’ current approach is estimated to cost more and/or take longer than the single-system approach,

- provide a rationale for pursuing the current approach despite its higher cost and/or longer schedule, and
- report the cost and schedule estimates of the current and previous approaches, results of the comparison of the estimates, and reasons (if applicable) for pursuing a more costly or time-consuming approach to VA’s and DOD’s congressional authorizing and appropriations committees.

**DoD/VA RESPONSE:** Concur. DoD and VA concur with the recommendation to develop cost and schedule estimates for their respective electronic health record (EHR) modernization programs and to compare them with the integrated EHR (iEHR) approach. These actions are currently underway by both Departments. A review of both Departments’ initial cost estimates against the August 2012 IPO Life Cycle Cost Estimate indicate that the current approach will be more cost effective. As part of both Departments’ ongoing acquisition program rigor, these estimates will continue to be refined and updated.

**RECOMMENDATION 2:** To better position VA and DOD to achieve an interoperable electronic health record, we recommend that the Secretaries of Veterans Affairs and Defense develop a plan that, at a minimum, describes

- the clinical domains that the interoperable electronic health record will address;

- a schedule for implementing the interoperable record at each VA and DOD location;
- the estimated cost of each major component (i.e., VistA Evolution, DHMSM, etc.) and the total cost of the Departments' interoperability efforts;
- the organizations within VA and DOD that are involved in acquiring, developing, and implementing the record, as well as the roles and responsibilities of these organizations;
- major risks to the Departments' interoperability efforts and mitigation plans for those risks; and
- the Departments' approach to defining, measuring, tracking, and reporting progress toward achieving expected performance (i.e., benefits and results) of the interoperable record.

**DoD/VA RESPONSE:** Concur. Both Departments are developing their plan that meets the requirements identified. These plans are consistent with Congressional direction to the DoD in section 713 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2014 (Pub. L. 113-66) and the January 2, 2014, Defense Health Management Systems (DHMS) Acquisition Decision Memorandum (ADM).

**RECOMMENDATION 3:** To better position the Interagency Program Office (IPO) for effective collaboration between VA and DOD and to efficiently and effectively fulfill the office's stated purpose of functioning as the single point of accountability for achieving interoperability between the Departments' EHR systems, we recommend that the Secretaries of Veterans Affairs and Defense ensure that the IPO has authority

- over dedicated resources (e.g., budget and staff),
- to develop interagency processes, and
- to make decisions over the Departments' interoperability efforts.

**DoD/VA RESPONSE:** Concur. DoD and VA remain committed to the IPO having authority over dedicated resources and to ensuring those resources adequately support all IPO requirements. The Departments concur with the recommendation that the IPO *remain the single point of accountability for achieving interoperability between the Departments' EHR systems* and recently signed a charter outlining the IPO's responsibility for managing the interagency processes. These responsibilities include overseeing, identifying, and approving health, domain, and messaging standards for the Departments to implement in their EHRs. The Departments also concur that the IPO makes decisions and provides essential technical input to both Departments' leadership at key acquisition milestones during the procurement processes that advance interoperability efforts and capabilities.

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# Appendix III: GAO Contact and Staff Acknowledgments

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## GAO Contact

Valerie C. Melvin, (202) 512-6304 or [melvinv@gao.gov](mailto:melvinv@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, Mark T. Bird (Assistant Director), Heather A. Collins, Kelly R. Dodson, Lee McCracken, Brandon S. Pettis, Umesh Thakkar, and Eric Trout made key contributions to this report.

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